Patent claims

1. A safety seat for land vehicles, aircraft or vessels, comprising a harness (10) that is to be suspended from fixed points of the vehicle and put onto the vehicle occupant's body without fixed components for supporting the vehicle occupant, whereby fabric supporting belts (17, 19, 21, 23) extend from the harness (10) to belt retractors (18, 20, 22, 24), which are located on the fixed points of the vehicle and which pretension the corresponding connected supporting belts (17, 19, 21, 23) in the direction of retraction, and whereby a switching device (25, 26) that can be operated by the occupant is provided by means of which the belt retractors (18, 20, 22, 24) can be switched into either a free running state with free belt withdrawal opposite to the pretension that is provided in the direction of retraction, or into a blocking state with complete blocking of the belt shaft effective both in the direction of belt retraction and in the direction of belt withdrawal, or into a positioning state that blocks the belt retractors solely in the direction of belt withdrawal.

2. A safety seat according to claim 1, wherein the harness (10) comprises a belt sling (11) that supports the occupant's buttocks and has two longitudinal belts (12) that extend along the upper body, at least one back belt (13) that connects the longitudinal belts (12) behind the occupant's body, two shoulder belts (14)

that start at the longitudinal belts (12) and extend over the occupant's shoulders, and two lap belts (15) that are attached to the longitudinal belts (12), whereby the free ends of the shoulder belts (14) and the lap belts (15) can be buckled together in a central belt buckle (16).

3. A safety seat according to claim 2, wherein the longitudinal belts (12) of the harness (10), in an elongation as supporting belts (17), each extend to a belt retractor (18) that is located above the occupant, and whereby two further supporting belts (19) that are attached to the belt sling (11) in the occupant's hip area each extend to a belt retractor (20) that is located in front of the seat and facing the occupant so that the harness (10) that supports the occupant is suspended from at least four belt retractors (18, 20) that are located in a distance from each other.

4. A safety seat according to one of the claims 1 through 3, wherein the supporting belts (17, 19) are releasably attached to associated belt segments of the harness (10).

5. A safety seat according to one of the claims 1 through 4, wherein each supporting belt (17, 19) that extends to a belt retractor (18, 20) runs through and is supported on the harness (10) in a looped manner and extends from the harness (10) to a

further belt retractor (18a, 20a) in such a way that both ends of each supporting belt (17, 19), which are located on both sides of the loop-like connection to the harness (10), are each connected to a belt retractor (18, 18a, 20, 20a), and whereby the additional belt retractors (18a, 20a) are each linked to an additional switching device (25a) that has the functions free running state, blocking state and positioning state.

6. A safety seat according to one of the claims 1 through 4, characterized in that each one of the supporting belts (17, 19) runs through and is supported on the harness (10) in a looped manner and that both ends, which are located on both sides of the loop-like connection to the harness (10), are attached to the associated belt retractors (18, 20), whereby switching devices (25, 25a) that are to be operated separately and have the functions free running state, blocking state and positioning state are assigned to each belt retractor (18, 20), and whereby each of the switching devices (25, 25a) controls the state of movement of one of the two ends of the corresponding supporting belts (17, 19) that is connected to the belt retractor (18, 20).

7. A safety seat according to claim 6, wherein the length of the supporting belts (17, 19) is determined in such a way that when each belt stop is completely withdrawn from all belt retractors (18, 18a, 20, 20a) the safety seat is located in the lowest position.

8. A safety seat according to one of the claims 1 through 7, wherein a supporting belt (21) that extends to a belt retractor (22) located in the floor area of the vehicle is attached to the belt sling (11) that supports the occupant's buttocks.

9. A safety seat according to one of the claims 1 through 8, wherein a supporting belt (23), which extends to a belt retractor (24) that is attached to the vehicle in the area of the occupant's back, is connected to the back belt (13) of the harness (10).

10. A safety seat according to one of the claims 1 through 9, wherein two back belts (13, 13a) in the shoulder and in the hip area are attached to the longitudinal belts (12) of the harness (10) and whereby the supporting belt (23) is connected to the back belt (13) that is located in the shoulder area.

11. A safety seat according to one of the claims 1 through 10, wherein the belt sling (11) including the adjacent sections of the longitudinal belts (12) and of the back belt (13a) that is located in the hip area, are interconnected by a fabric seating surface.

12. A safety seat according to one of the claims 1 through 11, wherein the longitudinal belts (12) and the back belts (13, 13a) are interconnected by a fabric backrest.

13. A safety seat according to one of the claims 1 through 12, wherein the supporting belts (21, 23) are releasably attached to the associated belt sections of the harness (10).

14. A safety seat according to claim 12, characterized in that the belt sections of the harness (10) that are to be releasably attached to the supporting belts (21, 23) are integrated into and connected to the occupant's clothing.

15. A safety seat according to one of the claims 1 through 14, wherein a switching device (25, 25a) with a switching lever (26) that can be moved between three positions is attached to the vehicle so as to be reachable for the occupant, and whereby

control lines (27, 27a) lead from the switching device (25, 25a) to each of the installed belt retractors (18, 18a; 20, 20a; 22, 24).

16. A safety seat according to one of the claims 1 through 15, wherein the pretension on the belt retractors (18, 18a; 20, 20a; 22, 24) that is effective in the direction of belt retraction is induced by spring tension.

17. A safety seat according to one of the claims 1 through 16, wherein the pretension on the belt retractors (18, 18a, 20, 20a, 22, 24) that is effective in the direction of belt retraction can be generated by engaging an active drive mechanism for the belt shaft.

18. A safety seat according to one of the claims 1 through 17, wherein the blocking of the belt retractor (18, 18a, 20, 20a, 22, 24) in the direction of belt withdrawal in the positioning state can be provided by a ratchet mechanism.